

Application No.: 09/578,962

2

Docket No.: 06920/000H207-US0

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A monochromator comprising:
an optical ray input section which limits the width of optical rays input from a light source,
a first concave mirror for converting the optical rays passing through the optical ray input section into parallel rays,
a diffraction grating for separating the parallel rays by wavelength into diffracted rays,
a second concave mirror for condensing the diffracted rays when the diffracted rays are input,
an optical ray output section which limits a wavelength band width of the condensed rays, and
a substrate to which all of the optical ray input section, the first concave mirror, the diffraction grating, the second concave mirror, and the optical ray output section are fixed;
wherein the first and second concave mirrors are formed of a first material and said substrate is formed of a second material different from said first material, a coefficient of linear expansion of a focal length of the first concave mirror, a coefficient of linear expansion of a focal length of the second concave mirror, and a coefficient of linear expansion of the second material forming the substrate are approximately the same.

Claims 2.-4. (Canceled).

5. (Original) The monochromator according to claim 1, wherein at least one of the optical ray input section and the optical ray output section is a slit.

6. (Previously presented) A monochromator comprising:
a slit to limit a width of optical rays input from a light source,
a concave mirror to convert the optical rays passing through the slit into parallel rays,

Application No.: 09/578,962

3

Docket No.: 06920/000H207-US0

a diffraction grating to separate the parallel rays into diffracted rays by wavelength,
and

a substrate to which all of the slit, the concave mirror, and the diffraction grating are
fixed;

wherein the concave mirror condenses the diffracted rays when the diffracted rays
are input, and the slit limits a wavelength band width of the condensed rays;

wherein a coefficient of linear expansion of a focal length of
the concave mirror and a coefficient of linear expansion of a material
forming the substrate are approximately the same.

7. Canceled.

8. (Original) The monochromator according to claim 6, wherein the material
forming the substrate is a composite of aluminum and ceramic.

9. (Currently amended) ~~An optical spectrum analyzer comprising the A~~
monochromator according to claim 1 further comprising:

a photodetector to receive the light ray output of the optical ray output section; and
display means connected to the photodetector for displaying the light ray output
detected by the photodetector.

10. (Currently amended) ~~An optical spectrum analyzer comprising the A~~
monochromator according to claim 6 further comprising:

an output plate mounted on the substrate to receive diffracted rays from the concave
mirror, and having a slit to limit the wavelength bandwidth of the optical rays received on the plate
from the mirror;

a photodetector to receive the optical ray output passing through the slit of the plate;
and

Application No.: 09/578,962

4

Docket No.: 06920/000H207-US0

means connected to the photodetector for displaying the optical ray output detected by the photodetector.

11. (Canceled).

12. (Previously presented) The monochromator according to claim 1 wherein the first and second concave mirrors are of glass material.

13. (Canceled).

14. (Previously presented) The monochromator according to claim 12, wherein the material forming the substrate is a composite of aluminum and ceramic.

15. (Previously presented) The monochromator according to claim 6, wherein the concave mirror is of glass material.

16.-17. (Canceled).

18. (Previously presented) A monochromator comprising:
an optical ray input section which limits the width of optical rays input from a light source,
a first concave mirror for converting the optical rays passing through the optical ray input section into parallel rays,
a diffraction grating for separating the parallel rays by wavelength into diffracted rays,
a second concave mirror for condensing the diffracted rays when the diffracted rays are input,
an optical ray output section which limits a wavelength band width of the condensed rays, and

Application No.: 09/578,962

5

Docket No.: 06920/000H207-USO

a substrate formed of a composite of aluminum and ceramic to which all of the optical ray input section, the first concave mirror, the diffraction grating, the second concave mirror, and the optical ray output section are fixed;

wherein a coefficient of linear expansion of a focal length of the first concave mirror, a coefficient of linear expansion of a focal length of the second concave mirror, and a coefficient of linear expansion of the composite of aluminum and ceramic forming the substrate are approximately the same.

19 and 20. Canceled.

21. (Previously presented) A monochromator comprising:

a slit for limiting a width of optical rays input from a light source,

a concave mirror for converting the optical rays passing through the slit into parallel rays,

a diffraction grating for separating the parallel rays by wavelength into diffracted rays,

a substrate formed of a composite of aluminum and ceramic to which all of the slit, the concave mirror, and the diffraction grating fixed; and

wherein the concave mirror condenses the diffracted rays when the diffracted rays are input, and the slit limits a wavelength band width of the condensed rays;

wherein the concave mirror is of glass material;

wherein a coefficient of linear expansion of a focal length of the concave mirror and a coefficient of linear expansion of the composite of aluminum and ceramic forming the substrate are approximately the same.

22-24. Canceled.

25. (Currently amended) The monochromator according to claim 1, wherein the substrate is formed at least in part of metal.

Application No.: 09/578,962

6

Docket No.: 06920/000H207-US0

26. (Currently amended) The monochromator according to claim 6, wherein the substrate is formed at least in part of metal.